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(54) Title: ASSAY AND PROCESS FOR LABELING AND DETECTION OF MICRO RNA AND SMALL INTERFERING RNA SEQUENCES

(57) Abstract: A process for protecting a short RNA fragment includes labeling a short RNA fragment with a detectable platinum compound forming a labeled small RNA fragment. Resulting labeled short RNA fragment is exposed to a capture oligonucleotide. The capture oligonucleotide includes at least two replicates of a nucleotide sequence complimentary to the short RNA fragment nucleotide sequence. The labeled short RNA fragment and the captured oligonucleotide sequence are brought into contact under hybridization conditions. With hybridization, the marker moiety is detected on the hybridized labeled small RNA fragment-captured oligonucleotide conjugant. A detection array for short RNA fragment includes a substrate having multiple spots, with a first spot including a first capture oligonucleotide including at least two replicates of a nucleotide sequence complimentary to a first short RNA fragment along with an additional nucleotide sequence functioning as a universal controller or spacer. Another spot on the array includes a second capture oligonucleotide having at least two replicates of a sequence complimentary to a second short RNA fragment along with an additional sequence functioning as a universal controller or spacer. Verified small RNA fragments are also obtained after mobilizing a sequence through elution and optional platinum compound removal therefrom.

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